8th Annual Globe Conference: Mississippi State University Annual Report, Mississippi Research Consortium Franchise, July 25-30, 2004, Boulder, Colorado

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In September of 1999, Mississippi State University received a catalyst grant, "Preparing Teachers to Deliver Technology-Rich, Problem-Based Learning experiences," from the U. S. Department of Education. The PT3 ("Preparing Tomorrows' Teachers to Use Technology") project was a collaborative effort between the Mississippi Research Consortium members (Mississippi State University, Jackson State University, the University of Mississippi, and the University of Southern Mississippi), partnering community colleges, and local school districts. The main goal of the project was to infuse technology and hands-on science practices into the Mississippi Education System.

PT3 training activities were designed to meet the needs of the grant participants. Included in the training activities were GLOBE (Global Learning and Observations to Benefit the Environment), Assistive Technology, Electronic Portfolio development, Project Wet, Project Wild, Project Learning Tree, use of the Internet in teaching, course management software (WebCT, Blackboard), productivity tools, and strategies for using technology to enhance learning and teaching. PT3 helped institute a lasting improvement of technology incorporation into the curriculum.

Attending workshops at the consortium institutions during the duration of the grant were the following: 183 teachers from 24 school districts, 114 faculty from the Colleges of Education and Arts and Sciences, and 1048 education candidates. The faculty received technology training while the education candidates received science and technology training. In addition to technology training, teachers also received GLOBE training. After GLOBE training, the teachers reported feeling fully prepared to

implement the various protocols (e.g., atmosphere, hydrology, soil). Qualitative feedback indicated their level of enthusiasm:

> ***"I think the GLOBE program is an excellent way to teach science hands-on! Also, an excellent way to make students environmentally aware"***
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> ***"Students go to the weather station, record data, and enter data into the computer. This integration of technology & science is what should take place in the classroom according to the science frameworks I teach from."***
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> ***"The students love checking the weather station."***
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> ***"GLOBE is a wonderful program."***
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> ***"My seventh graders love going to the nearby creek once a week to test the weather."***
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> ***"We always discover something new in nature, which leads to questions of future lessons."***
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> ***"I have used GLOBE for math and science."***
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> ***"We have used the weather instrument shelter and learned to read the cloud chart. The children really enjoyed it."***
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> ***"GLOBE is the one (activity) I have found most relevant and beneficial."***
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> ***"The GLOBE activities were successfully used in my classroom. For example, in teaching students to read the minimum/maximum thermometer, I worked with students in small groups of 4-5 students. This allowed students to have more hands on practice."***
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> ***"We use GLOBE everyday, collection of data and input."***
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> ***"GLOBE was great, the students were thrilled with the "tech" involved, but had a tough time with the min/max thermometer."***

While many teachers were successful in reporting data, others were not. Those who were not able to report GLOBE data after the workshop stated several reasons as to why they were not able to report data. One first year teacher felt overwhelmed and did not have a functional computer in her classroom. Several teachers changed positions and

no longer taught science. One teacher became ill with cancer. While some teachers spoke of lack of time to collect GLOBE data, all were eager to recommend colleagues for a future workshop. Although not everyone used Globe, all teachers considered the training useful.

Data collected from four schools revealed information about GLOBE data submitted to the national website. The first school had taken 148 measurements over a period of two months for an average of 2.34 measurements per day. The second school had taken 200 measurements over a period of two months for an average of 3.12 measurements per day. A third school had taken 352 measurements over a period of eight months for an average of 1.41 measurements per day. The fourth school had taken 14 measurements over three days for an average of 3.5 measurements per day.

Follow-up information collected from the teachers indicated positive reactions to their training experience. The percentage of teachers rating the workshop as valuable or extremely valuable was 97.1 while 67% of the responding teachers implemented GLOBE, 100% used internet and web resources, and 94% used email. The teachers were very enthusiastic about the GLOBE program and were excited about their students who had incorporated GLOBE into their science fair projects.

The PT3 Workshops provided much needed training to the participants at the participating institutions. Overall reaction to the workshops was extremely positive and many participants expressed interest in returning for additional training even after the grant period ended November 15, 2003.

PT3 Grant Funded by the U.S. Department of Education, PT3 Grant Award number P342A990241, Mississippi State University